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Galactic Potentials Kayll Lake email Department of Physics, Queen's University, Kingston, Ontario, Canada, K7L 3N6

abstract The information contained in galactic rotation curves is examined under a minimal set of assumptions. If emission occurs from stable circular geodesic orbits of a static spherically symmetric field, with information propagated to us along null geodesics, observed rotation curves determine galactic potentials without specific reference to any metric theory of gravity. Given the potential, the gravitational mass can be obtained by way of an anisotropy function of this field. The gravitational mass and anisotropy function can be solved for simultaneously in a Newtonian limit without specifying any specific source. This procedure, based on a minimal set of assumptions, puts very strong constraints on any model of the "dark matter".